## JAPA Rec'd PCTIPTO 03 APR 2006

PTO-1390 (Rev. 07-2005)

Approved for use through 03/31/2007. OMB 0651-0021 U. S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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#### ATTORNEY'S DOCKET NUMBER TRANSMITTAL LETTER TO THE UNITED STATES 30882/40950 **DESIGNATED/ELECTED OFFICE (DO/EO/US)** U.S. APPLICATION NO. (if known, see 372 FR 1.5) **CONCERNING A SUBMISSION UNDER 35 U.S.C. 371** INTERNATIONAL APPLICATION NO. INTERNATIONAL FILING DATE PRIORITY DATE CLAIMED PCT/EP2004/010615 22 September 2004 2 October 2003 TITLE OF INVENTION Spherical or Grain-Shaped Semiconductor Element for use in Solar Cells and Method for Producing the Same; Method for Producing a Solar Cell Comprising Said Semiconductor Element and Solar Cell APPLICANT(S) FOR DO/EO/US Jaques SCHEUTEN, Volker GEYER, and Patrick KAAS Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. 1. X This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. The US has been elected (Article 31). A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) is attached hereto (required only if not communicated by the International Bureau). has been communicated by the International Bureau. is not required, as the application was filed in the United States Receiving Office (RO/US). An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). X is attached hereto. a. has been previously submitted under 35 U.S.C. 154(d)(4). Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) X are attached hereto (required only if not communicated by the International Bureau). a. have been communicated by the International Bureau. have not been made; however, the time limit for making such amendments has NOT expired. have not been made and will not be made. An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). Items 11 to 20 below concern document(s) or information included: An Information Disclosure Statement under 37 CFR 1.97 and 1.98. An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. x A preliminary amendment. An Application Data Sheet under 37 CFR 1.76. **15**. A substitute specification. 16. A power of attorney and/or change of address letter. **17**. A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 – 1.825. 18. A second copy of the published International Application under 35 U.S.C. 154(d)(4). A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 19.



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| U.S. APPLICATION NO. IT shown see 312 CFR 135)   |              |                                       |  | INTERNATIONAL APPLICATION NO. PCT/EP2004/010615 |            |                        | ATTORNEY'S DOCKET NUMBER 30882/40950 |         |   |     |     |
|--|--------------|---------------------------------------|--|---|------------|------------------------|--------------------------------------|---------|---|-----|-----|
| 20. X Other items or information: International Search Report, return receipt postal card  |              |                                       |  |   |            |                        |                                      |         |   |     |     |
|  |              |                                       |  |   |            |                        |                                      |         |   |     |     |
|  |              |                                       |  |   |            |                        |                                      |         | *   |     |     |
|  |              |                                       |  |   |            |                        |                                      |         |   |     |     |
| The foll   | lowing fee   | es have                               | e been submitte  | <br>∌d  |            |                        | CALCULATIONS PTO USEONLY             |         |   |     | NLY |
| 21. x Basic national fee (37 CFR 1.492(a))   |              |                                       |  |   |            |                        |                                      | 300.0   | 00  |     |     |
| 22. x Exan If the written opin prepared by If All other situation  | \$           | 200.0                                 | 00   |   |            |                        |                                      |         |   |     |     |
| 23. X Search fee (37 CFR 1.492(b))  If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)  |              |                                       |  |   |            |                        |                                      | 500.0   | 00  |     |     |
|  | TOTAL OF     | F 21, 22                              | and 23 =   |   |            |                        | \$                                   | 1,000.0 | 00  |     |     |
| Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)).  The fee is \$250 for each additional 50 sheets of paper or fraction thereof. |              |                                       |  |   |            |                        |                                      |         |   |     |     |
| Total Sheets   | Extra She    | ets                                   | Number of each additional 50 or fraction RATE thereof (round up to a whole number) |   |            |                        |                                      |         |   |     | ;   |
| - 100 =  |              | /50 =                                 |  |   | x \$250.00 |                        |                                      |         | Ì   |     |     |
|  |              |                                       |  | e, examination fee, or the (37 CFR 1.492(h)).   | oath       | or declaration         | \$                                   |         |   |     |     |
| CLAIMS   | <del>_</del> | <del> </del>                          | MBER FILED   | NUMBER EXTRA                                    |            | RATE .                 |                                      |         |   | 1 * |     |
| Total clair  |              | · · · · · · · · · · · · · · · · · · · | 1 - 20 =   | 21  |            |                        | <del></del>                          | 1,050.0 | <del></del>                                       | ·   | •   |
| Independent of MULTIPLE DEP  |              |                                       | 4 - 3 = []   | 1   | ×<br>+     | 200.00                 | , <u> </u>                           | 200.0   | <del>                                      </del> |     |     |
| WOLIN CO TO  |              | /L/ 1111(                             | ) (II Oppiious)  | TOTAL OF A                                      | <u> </u>   | 'E CALCULATIONS =      | \$                                   | 2,250.0 | 00  |     |     |
| Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by ½.  |              |                                       |  |   |            |                        |                                      |         | •   |     |     |
| SUBTOTAL =   |              |                                       |  |   |            | SUBTOTAL =             | \$                                   | 2,250.0 | 00  |     |     |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).  |              |                                       |  |   |            |                        | \$                                   |         | ,   | ,   |     |
| TOTAL NATIONAL FEE =   |              |                                       |  |   |            |                        | \$ 2,250.00                          |         |   |     |     |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +   |              |                                       |  |   |            |                        |                                      |         |   |     |     |
| TOTAL FEES ENCLOSED =  |              |                                       |  |   |            |                        | \$ 2,250.00                          |         |   |     |     |
|  |              |                                       |  |   |            | Amount to be refunded: |                                      |         |   |     |     |
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|  |   | PTO-1390 (Rev. 07-2005)  r use through 03/31/2007. OMB 0651-0021 fice; U.S. DEPARTMENT OF COMMERCE |
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| Under the Paperwork Reduction Act of 1995, no persons are require  | ed to respond to a collection of information unle |  |
| a. X A check in the amount of \$ 2,250.00  | to cover the above fees is enclosed.              | OFFI IS US APR 200   |
| b. Please charge my Deposit Account No. A duplicate copy of this sheet is enclosed.                            | in the amount of \$                               | to cover the above fees.   |
| c. X The Commissioner is hereby authorized to charge a Account No. 13-2855 . A duplicate                       | •   | , or credit any overpayment to Deposit   |
| d. Fees are to be charged to a credit card. WARNIN should not be included on this form. Provide card.          |   |  |
| NOTE: Where an appropriate time limit under 37 CFR 1 filed an granted to restore the International Application |   | vive (37 CFR 1.137(a) or (b)) must be  |
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| SEND ALL CORRESPONDENCE TO:  | SIGNATURE   | 7  |
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## 10/574633 IAP20 Rec'd PCT/PTO 03 APR 2006 PATENT

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| Applicants: Scheuten et al.       | ) | For: SPHERICAL OR GRAIN-SHAPED |
|-----------------------------------|---|--------------------------------|
|                                   | ) | SEMICONDUCTOR ELEMENT FOR USE  |
| U.S. National Phase of            | ) | IN SOLAR CELLS AND METHOD FOR  |
| PCT/EP2004/010615 filed September | ) | PRODUCING THE SAME; METHOD FOR |
| 22, 2004                          | ) | PRODUCING A SOLAR CELL         |
|                                   | ) | COMPRISING SAID SEMICONDUCTOR  |
| Filed: Herewith                   | ) | ELEMENT AND SOLAR CELL         |
| -                                 | ) |                                |
| •                                 | ) | Group Art Unit: To be assigned |
|                                   | ) |                                |
| <del>-</del>                      | ) | Examiner: To be assigned       |

### **CERTIFICATION UNDER 37 C.F.R. § 1.10**

I hereby certify that the attached eight items (a) through (h) are being deposited with the United States Postal Service on April 3, 2006, in a postage-paid envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 utilizing the "Express Mail Post Office to Addressee" service of the United States Postal Service under Mailing Label No. EV686094936US.

- (a) Transmittal letter to the United States Designated/Elected Office (DO/EO/US) concerning a filing under 35 U.S.C. §371;
- (b) Application as filed;
- (c) Translated application, including eighteen sheets of description, eleven sheets of claims, and two sheet of drawings;
- (d) Application Data Sheet;
- (e) Preliminary Amendment;
- (f) Translation of Article 34 amendments;
- (g) Information Disclosure Statement; and
- (h) International Search Report.

Richard Zimmermann